

REMARKS

Claims 1-45 are pending in the present application, with claims 1, 21, 22, 28 and 30 being the independent claims. In summary of the outstanding Official Action, claims 1-45 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 5,987,506 (Carter et al.). Reconsideration of the outstanding rejections to the claims is respectfully requested in view of the following remarks.

Summary of the Invention

Prior to Applicants' invention, the state of the art in hierarchical storage management for files did not cover partial migration of files in most contexts, i.e., it addressed the generic desire of a user to migrate predetermined part(s) of a file from a first location to a second location while retaining other part(s) of the file at the first location. In this regard, the state of the art did not provide a mechanism for specifying those regions of a data stream suited to writes and updates and those regions of a data stream suited to off-line or remote storage. In short, sometimes it is desirable to migrate predetermined part(s) of files to remote storage and to retain other part(s) in local storage and current file servers do not enable native support for and specification of which data to keep and which data to export elsewhere.

The present invention provides such partial migration abilities, and meanwhile, preserves the data relationships of the migrated part(s) to the unmigrated part(s) via file system metadata as a roadmap to reconstruction of the original file. Thus, for example, if part of a Word Processing document were partially migrated to remote storage, for example, the file system of the present

invention enables operations on the original document in its entirety without regard to the fact that some of the document may have been migrated to remote storage.

Rejections under 35 U.S.C. § 102

As mentioned above, in the Official Action, claims 1-45 were rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Carter et al. The outstanding rejections to the claims are respectfully traversed.

Before discussing the specific rejections with respect to each claim, Applicants respectfully submit that the Office Action is improperly combining portions of the description of Carter et al. that have little or insufficient relation to each other with respect to how they are being combined to reject Applicants' claims. According to *In re Arkley*, 455 F.2d 586, 587-88 (CCPA 1972), "It is well settled, however, that an anticipation is not established if in reading a claim on something disclosed in a reference, it is necessary to pick, choose and combine various portions of the disclosure not directly related to each other by the teachings of the reference." It is important to note that although certain terms such as "data migration," "file system metadata" and "portions of the data stream" may appear in the description of Carter et al., Carter et al. does not describe these notions relating them directly together in any way that would suggest anticipation of Applicants' claims. For example, Carter et al. speaks of data migration generally, and file system metadata generally in how a file is identified, but does not relate them sufficiently to combine them in the way the Office Action does. Thus, Applicants submit that the Office Action is combining portions of Carter et al. in an improper manner to establish anticipation as will become more evident in the discussion of individual claim rejections below.

Claim 1

With respect to claim 1, the Office Action alleges Carter et al. discloses “identifying at least one portion of the stream of data for migration to the second storage location” at column 12, lines 3-7. Here, Carter et al. speaks of “desired portions of the data stream,” however, Carter et al. does not specifically teach identifying these portions of a data stream for migration to the second storage location. Carter et al. discloses using these “desired portions of the data stream” generally as part of the “input to the services” to operate at the file level (column 12, lines 3-7).

The Office Action also alleges Carter et al. discloses “migrating said at least one portion to said second storage location wherein said migrating includes (A) relocating said at least one portion from the first storage location to the second location and (B) generating additional file system metadata relating to said stream of data” at column 3, lines 7-9 and column 11, lines 34-35. Here, Carter et al. says it is “an object of the invention to provide a globally addressable storage system that employs data migration ...” However, Applicants respectfully submit that Carter et al. does not teach migrating “said at least one portion” of the stream of data (that portion being the one identified in the first step of claim 1) “from the first location to the second location,” but merely states that is an object to employ data migration generally in the system of Carter et al. There is no relation made in Carter et al. to employ data migration in the way set forth in claim 1. With respect to column 11, lines 34-35 of Carter et al., “file system metadata” is used in Carter et al. “to describe a file” and to “represent the file in the file system” (Col. 11, line 38). Although this metadata is associated with a file to identify it, Applicants respectfully

submit that Carter et al. does not teach generating any “*additional* file system metadata” relating to said stream of data.

The Office Action submits that in column 11, lines 60-66 and Fig. 2 et seq, Carter et al. discloses “preserving said stream’s data relationships via said additional file system metadata, whereby said entire stream of data remains accessible to a user of the file system as if said at least one portion of the stream of data were not migrated according to said migrating.” As described above, Carter et al. does not teach generating any “*additional* file system metadata” relating to said stream of data. Here, Carter et al. discusses how data streams are accessed in the system of Carter et al. wherein “Each data stream is individually named so that the user can create or open access to a specific data stream.” Thus, Carter et al. is describing here how a file or data stream is accessed and does not teach “preserving said stream’s data relationships” via any said “additional file system metadata.”

Therefore, since all the limitations of claim 1 are not taught by Carter et al., Applicants respectfully submit claim 1 patently defines over this reference. Withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(e) is thus earnestly solicited.

Claims 2-20

Claims 2-20 depend directly from claim 1 and are believed to be allowable for the same reasons. Withdrawal of the rejections of claims 2-20 under 35 U.S.C. § 102(e) is thus earnestly solicited.

Claim 21

The Office Action cites the same arguments for rejection as in claim 1. Thus, with respect to those arguments, Applicant submits claim 21 is allowable for the same reasons given

above by Applicants as for claim 1. Withdrawal of the rejections of claims 21 under 35 U.S.C. § 102(e) is thus earnestly solicited.

Claims 22-27

The Office Action alleges Carter et al. discloses “wherein said migration includes relocation of the at least one portion from the first storage location to the second location,” however, the Office Action does not address the language of claim 22 directly following this that states “and generation of *additional file system metadata* relating to the stream of data...” Carter et al. does not teach generation of additional file system metadata relating to the stream of data.

With respect to the claim language “identifying the stream of data for which at least one portion is migrated,” the Office Action cites the same reasons for rejection as in claim 1. Thus, with respect to this claim language, Applicant submits claim 22 is allowable for the same reasons given above by Applicant as for claim 1.

Claims 23-27 depend directly from claim 22 and are believed to be allowable for the same reasons. Withdrawal of the rejections of claims 22-27 under 35 U.S.C. § 102(e) is thus earnestly solicited.

Claims 28-29

The Office Action alleges Carter et al. discloses “An application programming interface (API) for use in a computer system, whereby a stream of data may register for administration for partial migration techniques according to the method of claim 1.” First, for the reasons given above for claim 1, Applicants respectfully submit that the method of claim 1 is not disclosed by Carter et al. Second, the data control program of Carter et al. to which the Office Action cites “operates similarly to an interface between a conventional data storage program and a local

memory device.” Carter et al. does not teach using the data control program “whereby a stream of data may register for administration for partial migration techniques.”

Claim 29 depends directly from claim 28 and is believed to be allowable for the same reasons. Withdrawal of the rejections of claims 28-29 under 35 U.S.C. § 102(e) is thus earnestly solicited.

Claims 30-45

Citing column 4, lines 9-14 and Fig. 2 et seq. of Carter et al., the Office Action alleges Carter et al. teaches an HSM that “identifies and migrates at least one portion of said stream of data to a target storage location according to pre-set criteria.” However, although Carter et al. speaks of “migrating data stored in the persistent data storage device between two or more computers,” Carter et al. does not teach identifying *a portion of a data stream* and migrating it based on *pre-set criteria*, but only refers to data migration in general and only based on “accesses by the computers,” (column 4, line 13), not pre-set criteria.

Also, citing the same sections of Carter et al. as above, the Office Action alleges Carter et al. teaches an HSM that “generates metadata for the description of data relationships of said at least one migrated portion.” Applicants respectfully submit, there is no reference to such metadata in Carter et al. for the description of data relationships of said at least one migrated portion.

Claims 31-45 depend from claim 30 and are believed to be allowable for the same reasons. Withdrawal of the rejections of claims 30-45 under 35 U.S.C. § 102(e) is thus earnestly solicited.

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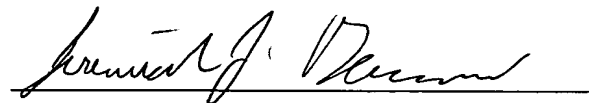
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Therefore, since all the limitations of claims 1-45 are not taught by Carter et al., Applicants respectfully submit claims 1-45 patentably define over this reference.

CONCLUSION

Applicants believe that the present Reply is responsive to each of the points raised by the Examiner in the Official action, and submit that Claims 1-45 of the application are in condition for allowance. Favorable consideration and passage to issue of the application at the Examiner's earliest convenience is earnestly solicited.

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